

WHAT IS CLAIMED IS:

1. A method for making a lamp electrode comprising:

cutting a first material to a desired length to define a first material component having a first end and a second end;

joining a first end of a second material to the second end of the first material component;

cutting the second material to define a second material component having a second end;

joining a first end of a third material to the second end of the second material;

cutting the third material to define a third material component having a second end, and

securing a coil to the second end of the third material component..

2. The method for making a lamp electrode of claim 1 wherein the step of cutting a first material further comprises:

using a first collet to hold a first portion of the first material;

using a second collet to hold a second portion of the first material spaced from the first portion, and

cutting the first material at a point between the first and second collets.

3. The method for making a lamp electrode of claim 1 wherein the step of joining a first end of a second material further comprises:

using a first collet to hold the first material component; and

using a second collet to hold the second material so that the first end of the second material is located adjacent to the second end of the first material.

4. The method for making a lamp electrode of claim 1 wherein the step of cutting the second material further comprises:

using a first collet to hold a portion of at least one of the first and second material components;

using a second collet to hold a portion of the second material, and  
cutting the second material at a point between the first and second  
collets.

5            5.        The method for making a lamp electrode of claim 1 wherein the step of  
joining a first end of a third material further comprises:

              using a first collet to hold at least one of the first and second material  
components, and

              using a second collet to hold the third material adjacent to the second  
end of the second material.

6            6.        The method for making a lamp electrode of claim 1 wherein the step of  
cutting the third material further comprises:

              using a first collet to hold a portion of at least one of the first material  
component, the second material component, and a first portion of the third material;

              using a second collet to hold a second portion of the third material, and

              cutting the third material at a point between the first and second collets.

7            7.        The method for making a lamp electrode of claim 1 wherein the step of  
securing further comprises:

              pushing the coil over an end of the third material component.

8            8.        The method for making a lamp electrode of claim 1 wherein the step of  
securing further comprises:

              selecting a coil having an inner diameter that is smaller than an outer  
diameter of the third material component.

9            9.        The method for making a lamp electrode of claim 8 wherein the step of  
securing further comprises:

              rotating at least one of the coil and the third material component for  
causing the coil to open as it is pushed over the end of the third material component.

10. The method for making a lamp electrode of claim 1 wherein the step of securing further comprises:

press-fitting the coil to the second end of the third material component.

5 11. The method for making a lamp electrode of claim 7 further comprising: cutting through the coil and a portion of the third material component in order to use the third material component as a support during the cutting process.

12. The method for making a lamp electrode of claim 1 wherein the step of securing further comprises:

fusing the coil to the end of the second stage assembly.

13. The method for making a lamp electrode of claim 1 wherein the cutting steps further comprise:

15 cutting with a high speed diamond saw.

14. The method for making a lamp electrode of claim 1 wherein the steps of joining further comprise welding.

20 15. The method for making a lamp electrode of claim 1 wherein the step of cutting a first material further comprises the step of:

supplying a niobium wire to be cut.

25 16. The method for making a lamp electrode of claim 1 wherein the step of joining a first end of a second material further comprises the step of:

supplying a molybdenum overwind to be joined.

17. The method for making a lamp electrode of claim 1 wherein the step of joining a first end of a third material further comprises the step of:

30 supplying a tungsten wire to be joined.

18. The method for making a lamp electrode of claim 1 wherein the step of joining a first end of a second material is performed subsequent to the step of cutting a first material.

5 19. The method for making a lamp electrode of claim 1 wherein the step of cutting the second material is performed subsequent to the step of joining of first end of the second material.

10 20. The method for making a lamp electrode of claim 1 wherein the step of joining a first end of a third material is performed subsequent to the step of cutting the second material.

15 21. The method for making a lamp electrode of claim 1 wherein the step of cutting the third material is performed subsequent to the step of joining a first end of a third material.

22. The method for making a lamp electrode of claim 1 wherein the step of securing a coil is performed subsequent to the step of cutting the third material.

20 23. A method for making an electrode for a lamp comprising the steps of:  
axially aligning a first collet and a second collet in facing relation;  
positioning a first material in the second collet with the leading-edge of  
the first material at a reference position;  
advancing the first material a first distance into the first collet;  
25 cutting the first material whereby a first material component is held in  
the first collet;  
replacing the second collet with a third collet, the third collet containing  
a second material;  
locating the second material adjacent to the first material;  
30 welding the second material to the first material;  
advancing the welded materials further through the first collet;

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cutting the second material at a second material cutting position between the first and third collets defining a second material component having a second end;

5 replacing the third collet with a fourth collet, the fourth collet containing a third material;

locating the third material adjacent to the second end of the second material component;

welding the third material to the second end of the second material component;

advancing the welded materials further through the first collet;

cutting the third material at a third material cutting position between the first and fourth collets, defining third material component and a second end of the third material component;

15 replacing the fourth collet with the fifth collet, the fifth collet containing a coil;

securing the coil to the fourth stage electrode assembly, and cutting the coil at a coil cutting position.